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ABSTRACT

A study replicated Robert Sommer's classic work of library table seat choices, showing that people given defensive instructions chose end seats while people given offensive instructions chose middle seats. In a followup study, defensiveness was measured in college students who were asked where they typically sat at library tables. This study found no relationship between defensiveness and seat choices. A third study asked patrons actually seated at public library tables to complete defensiveness scales. The relationship between their seat choice and defensiveness, although in the predicted direction, was not significant. It was concluded from these three studies that territoriality and defensiveness do not seem to be strongly related. (Author/RL)

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Seat Choices in Libraries and Defensiveness: Three Studies in Territoriality

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Seat Choices in Libraries and Defensiveness: Three Studies in Territoriality

Every schoolchild knows the adage, "actions speak louder than words." Operating on the basis of this popular observation, the study of nonverbal communication seeks to delineate and understand these "action messages." One of the earliest investigators, Robert Sommer, did much to awaken us to nonverbal messages and their importance. In what has emerged as one of the classics of the field--Personal Space--Sommer chronicles an incredible array of nonverbal studies, especially those dealing with territorial behavior. In fact, there may be few studies of territorial behavior better known than Sommer's investigation of seats in a library.[1]

The objective of his study was to ascertain how offensive and defensive nonverbal messages--seat choices--achieve spatial privacy. To accomplish this, Sommer asked a total of 45 students to respond to a questionnaire. Twenty-four students were instructed: "If you wanted to be as far as possible from the distraction of other people, where would you sit?"[2] The remaining 21 students were instructed: "If you wanted to have the table to yourself, where would you sit to discourage anyone else from occupying it?"[3] Presumably, the first set of instructions should produce defensive seat choices, the second offensive seat choices. The seat choices, then, are the "messages" to others approaching the table.

Each student, regardless of the type of instructions, was shown diagrams of a six-chair, eight-chair, and ten-chair table. All diagrams

had an equal number of chairs on each side of a rectangular table. There was no indication of walls, other tables or doors. In essence, the stimulus diagrams had maximal ambiguity.

Sommer concluded that the type of instructions led people to make different seat choices. Those persons given defensive instructions "overwhelmingly chose the end chairs."[4] Those given offensive instructions "almost unanimously chose the middle chair."[5]

At first blush, this study seems to be interesting but trivial. The preferred library seat of college students given defensive or offensive instructions is surely a question of small moment. Indeed, this would be accurate were it not for the ways in which the concept of territoriality itself has been defined.

Theoretical definitions of territoriality almost always seem to include some reference, directly or indirectly, to defensiveness. Observe, for example, "A territory is an area of space, whether of water or earth or air, which an animal or group of animals defends as an exclusive preserve,"[6] ". . . will allow prospective mates to enter but will defend it against entrance by others . . .,"[7] "Many species of animals display territorial behavior; a group of animals may regard a certain area as its exclusive preserve, and defend it fiercely against rivals,"[8] "The act of laying claim to and defending a territory is termed territoriality,"[9] ". . . behavior characterized by identification with an area is such a way as to indicate ownership and defense of this territory against those who may 'invade' it."[10] ". . . behavior by which an organism characteristically lays claim to an area and defends it against members of its own species . . ."[11]

"Man, too, is a territorial creature and similarly defends his property against predation . . ."[12] "Territoriality refers to the instinct in both human and lower forms of animal life to secure and defend territory"[13] ". . . people need to stake out some well-defined space which they can call their own and which they will vigorously defend against an intruder"[14] ". . . which is first rendered distinctive by its owner in a particular way and secondly, is defended by the owner"[15] and, finally, ". . . animals claim certain territories which they defend tenaciously as their own."[16] (All italics mine) Further, a recent theoretical review and explication of territoriality reveals the same pattern of definitional offerings.[17] It is revealing that we do not seem to be able to define or describe territoriality without the word "defend" in some form as a part of the definition.[18] Clearly, the relationship of defensiveness and territoriality is not simply an idle question; the relationship seems to be at the heart of our presumptions concerning the nature of territoriality.

All the cited definitions seem to have a common feature. Each one makes the assumption that defensiveness and territoriality are inter-related. The Sommer study demonstrated that the two concepts can be separated and hence the hypothesized relationship may be tested. The problem is that Sommer's test is not as convincing as it might be. First, what is the meaning of "overwhelmingly" or of "almost unanimously?" Second, are the results an artifact of sampling variability (small sample size)? Finally, have there been any changes over time? Understanding that the question at issue is the basic definition of territoriality, it seems appropriate to begin with a replication of Sommer.

Method

Student volunteers from a basic communication course responded to the same format as in the original Sommer study. In all, 155 students participated; 77 received the offensive instructions, 78 the defensive instructions.

The same classification schema used by Sommer has been adopted for this study. As shown in Figure 1, while there are no chairs at the end of any table, some chairs are clearly on the end of a row of chairs. These chairs have been labeled as "E". Other chairs are most clearly in the middle of the table; these are labeled as "M". For the ten-chair table, there is a chair between the middle and the end chair; it is labeled "?".

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Insert Figure 1 about here.

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Results

The initial query concerns the sheer number of chairs at the three tables--24 in all. Using the six-chair table as a case in point, will any of the four end chairs be more or less preferred over any of the other end chairs? Second, will either of the middle chairs be preferred over the other? Analysis revealed that none of the end chairs was especially preferred over any other. Nor was either middle chair preferred over the other. When people chose an end chair, they tended to choose randomly among the four end chairs; when people chose a middle chair, they tended to choose randomly between the two middle chairs. These two findings simplified data analysis considerably. In

essence, there are only two categories to choose from at the six-chair table--the end or the middle chairs. The eight and ten-chair tables were treated in a similar manner. The results are shown in Table 1.

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Insert Table 1 about here.

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Discussion

Clearly, these data support Sommer's original study. The defensive instructions produced the choice of end-chairs ranging from 76% to 79% with an average of 77% across the three tables. The offensive instructions produced the choice of middle-chairs ranging from 87% to 96% with an average of 90% across the three tables. Regardless of the definition of either "overwhelmingly" or of "almost unanimously," the results corroborate Sommer.

However, to place the results in perspective, it is not at all clear whether defensive or offensive people would make differential seat choices. At least in this replication, it seems to be the instructions which make the difference, not the people. Sommer, on the other hand, has written that

> There are library patrons who like to chat while they read and prefer to have refreshments close by, and new libraries often contain special rooms to satisfy the needs of gregarious readers as well as to get them out of the way of people who prefer quiet and solitude.[19]

The clear implication is that it is the person who makes the difference. In order to make the assertion that personality is a determinant of the nonverbal message of seat choice it is necessary to directly measure the personality variable. This measurement is the starting point for study II.

Study II

In study I we seemed to have reaffirmed what was already known. Indeed, this might be the end of our quest were it not for a crucial observation. We do not know that defensive people tend to select specific seats. What we know, and now we know it with more certainty than before, is that people given defensive instructions in a laboratory setting select some seats at a table with greater frequency than others. But we cannot say with any certainty that defensive people tend to select these seats more than other seats; the entire set of results may depend on the instructions being given, not on the people involved.

The purpose, then, of study II is to address the issue of whether defensive people, given the freedom of choice to select any seat, will tend to choose the end chairs as study I would imply. Do defensive and non-defensive people make different seat choices?

Method

Again, student volunteers from a basic communication course served as subjects for the study. It is to be emphasized that these were not the same persons used in study I even though they were students in the same course. A total of 144 students participated in this study.

The measure of defensiveness used was the Defense Mechanism Index (DMI) devised by Sweney and May.[20] The scale is composed of Likert-type statements designed to sample from a universe of defensive reactions. In the present study, six different forms of defensive reactions were measured by 24 items each. The forms of defensiveness measured were: Rationalization--

giving socially desirable reasons for doing socially undesirable things; Compensation--the verbalized intent to try harder next time; Negative Affect and Humor--laughing at one's troubles; Perceptual Defense--failing to perceive conflicting components of a troublesome situation; Autism--a wishful thinking or narcissistic adjustment to the world.

The students completed the DMI and were shown diagrams of the 6, 8 and 10 chair tables. For each table they were asked: "If you had your choice of any seat at the table, which seat would you select?" The drawings of the tables were presented on 8½ X 11 inch pages and were maximally ambiguous to avoid any bias that real surroundings might create. That is, there were no indicators of walls, doors or other furniture. This procedure is the same one as used in study I.[21]

Results

Plainly, Sweney and May expected the measures of defensiveness to be separate but inter-related. To verify this assumption, a simple correlation matrix among the subscales was produced. The weakest observed correlation was between rationalization and perceptual defense ($r = .48$; $df = 136$; $p < .001$). The strongest relationship was between autism and perceptual defense ($r = .69$; $df = 136$; $p < .001$).[22] While the subscales of defensiveness do not seem to measure precisely identical areas, they are closely related to one another.

Respondents were classified by consistency of seat choices. Any respondent who chose the end seat from at least two of the three tables was placed in the "end seat" group: any respondent choosing the middle

seat from at least two tables was placed in the "middle seat" group. Using this schema, the end seat group had 63 respondents; the middle seat group had 73. Eight respondents selected one end, one middle and one next-to-the-end seat (at the 10 chair table); consequently, they were dropped from the analysis.

The objective of the analysis was to ascertain whether differences existed between the end and middle groups for any of the five subscales of defensiveness. Since each of the five subscales of defensiveness is designed to sample different orientations toward a global behavior pattern, it would seem appropriate to treat the subscales as a vector. Hence, the tool chosen for analysis was multivariate analysis of variance.[23] The analysis revealed no significant F ratio for any subscale of the DMI. An examination of the group means, shown in Table 2, shows no discernable pattern. In fact, the only F greater than 1.00 was for autism ($F = 2.40$; $p \approx .12$). None of the defensiveness scores distinguishes between the end and middle groups.

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Insert Table 2 about here.

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Discussion

These results indicate that defensiveness does not seem to play a role in the projected seat choice at a table. However, it is important to keep in mind that the students were not actually choosing a seat. Rather, they were indicating which seat they would probably choose if given the opportunity. It is still a matter of conjecture whether

actual seat choices made in realistic settings would follow these results. This is the starting point for study III.

Study III

The final question to be asked is: Does defensiveness play a part in seat choices in realistic settings?

Method

The metropolitan area was used as the sampling site. The population, including suburbs, is over a million persons. This area has 26 separate public libraries which were used as sampling locations. Each library was sampled on only one day to avoid any possible replication of library patrons.

One student administrator was assigned to each library. Each of the five subscales of the DMI, consisting of 24 items each, had been placed on a separate page and randomly distributed among the 26 student administrators. The administrators were instructed to distribute one of the DMI subscales to each library patron who had clearly made a choice of seats at a table. (The rationale for this procedure was born of practicality. Few patrons have or would take the time to complete the 240 items used in studies I and II. Virtually anyone, it was reasoned, would complete a questionnaire of only 24 items. This assumption was confirmed; only three library patrons flatly refused to cooperate.) If the library was so crowded that seat choice was restricted, sampling was delayed. The key to the sampling was: the

library patron must have a clear choice of tables and of seats at those tables.

The student administrator's job was to locate library patrons seated alone at a table. The patron was approached, handed one of the subscales and asked to complete it. Each administrator was strictly cautioned to hand out whatever subscale happened to be on the top of the stack. Hence, since the subscales were randomly distributed to student administrators, there was a random distribution of the scales among patrons. Following these guidelines, a total of 340 responses were gathered.

The data obtained from patrons were classified into three major categories. First, there are those patrons seated in a lone chair away from others -- the ultimate retreat position; second, those patrons seated at the end seats of a 6 or 8 chair table; third, those patrons seated in the middle seats of a 6 or 8 chair table. Interestingly, no ten-chair tables could be found in any of the libraries. In fact, the vast majority of libraries had only four-chair tables. Of the 340 patrons who returned the subscales, 246 (72%) were seated at four-chair tables. Only 94 patrons could be classified into the three analysis categories.

The defensiveness scores of the 94 patrons were rank ordered from highest to lowest scores. If the seating categories identify patrons who differ in defensiveness, then we should observe the highest ranks in the alone category and the lowest ranks in the middle category. The pattern of ranks does indeed follow the pattern we would predict from Sommer's assertions. However, as measured by the nonparametric Wilson

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Insert Table 3 about here.

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two-way analysis of variance,[24] the differences among the seat choices are not significantly different from one another ($\underline{X}^2 = .184$; $\underline{df} = 2$; $\underline{p} = .40$). The answer to the question: "Is there a relationship between defensiveness and real-world seat choices?" seems to be no.

General Discussion

Reviewing all three studies indicates that the definitional assertions relating defensiveness to territoriality do not seem to exist. Study I clearly replicates and extends Sommer's original findings. But these findings still do not explain the posited relationship. Study II demonstrates that defensiveness and territoriality do not seem to be related, at least in the context of hypothesized choice behavior. Further, the effect size for each of the six measures are quite high in Study II. If we examine the degree to which high defensive and low defensive persons overlap in their seat choices--the statistic of comparison here would be $\underline{U}^{25}$--the percent of overlap ranges from a mere 11% for rationalization and negative effect to a high of 19% overlap for autism. These figures correspond to an explained variance of approximately .002 to .01 using the well known $\underline{r}^2$.[26] Finally, Study III attempted to relate actual behavior with defensiveness and territoriality. Again, there was no systematic relationship to be found. Taken as a whole, this series of studies argues that if defensiveness and territoriality are related at all, the relationship is very weak.

The importance of these studies is not in what was found but rather in what was not found. Ordinarily, nonsignificant findings are not worth bothering with. However, there are exceptions. If we are investigating a phenomenon which is thought to be extremely robust, then any deviation from the assumed and expected norm must give us pause. In fact, the more thoroughly convinced we are that a relationship exists between the two variables, the more important any exceptions to that conviction become. A paperweight which fails to fall and simply hangs in the middle of a room is, by definition, a nonsignificant event i.e. nothing happens. But looked at from another perspective, a paperweight failing to fall to the floor may be one of the most important "nonsignificant" events of our age. This is true, however, only if we are completely convinced of the universality of the law of gravity (at least on our planet's surface). That we seem to be convinced of the relationship between defensiveness and territoriality is clearly evident. The 17 definitions advanced, directly or indirectly, by different writers in communication and psychology concerning the definition of territoriality gave us ample reason to believe that the assumed relationship is widely held as fact. It should be further noted that none of the writers voiced any reservations whatsoever about the relationship e.g. "It only works some of the time," or "We are only discussing certain types of defensiveness," or "This has never really been tested" and so forth. Their endorsement is complete and universal. The important point here is that the vast majority of writers on the topic of territoriality seem unable to talk about the concept at all without also talking about defensiveness.

This series of studies undermines all those discussions. We labor the point because, metaphorically, this paper is in the position of suggesting that the earth may be round in a world where the recognized authorities clearly believe that it is flat.

Having said all this however, we must also place very severe limits on these non-findings. Simply because no fish were caught, it would be imprudent to assume that the lake is empty. More directly: confirmation of the null hypothesis never proves anything. All we have done is to raise some extremely serious doubts concerning our theoretical definition of the concept of territoriality. Doubts which only further research will lay to rest.

In the final result, these three studies--taken as a whole--suggest that defensiveness and territoriality are not always and everywhere linked together. This conclusion must give us pause when we seek to define the nature of territorial behavior. Territoriality may involve some aspects of defense but defensive people are not necessarily more territorial than others.

Footnotes

[1]Robert Sommer, Personal Space (Englewood Cliffs, N.J.: 1969) pp. 48-50.

[2]Sommer, p. 49.

[3]Sommer, p. 49.

[4]Sommer, p. 49.

[5]Sommer, p. 49.

[6]Robert Ardrey, The Territorial Imperative (New York: Atheneum, 1973) p. 3.

[7]Joseph A. DeVito, The Interpersonal Communication Book (New York: Harper & Row, 1976) p. 334.

[8]Michael Argyle, Bodily Communication (London: Methuen & Co., 1975) p. 312.

[9]Edward T. Hall, The Silent Language (Greenwich, Conn.: Fawcett, 1959) p. 146.

[10]Mark L. Knapp, Nonverbal Communication in Human Interaction (New York: Holt, Rinehart and Winston, 1972) p. 27.

[11]Dale G. Leathers, Nonverbal Communication Systems (Boston: Allyn and Bacon, 1976) p. 59.

[12]Ellen Steele McCardle, Nonverbal Communication (New York: Marcel Dekker, 1974) pp. 55-56.

[13]James C. McCroskey and Lawrence R. Wheeless, Introduction to Human Communication (Boston: Allyn and Bacon, 1976) p. 178.

[14]Gerald R. Miller and Mark Steinberg, Between People (Chicago: Science Research Associates, 1975) p. 204.

[15]Sommer, p. 14.

[16]Gordon Wiseman and Larry Barker, Speech--Interpersonal Communication (New York: Chandler, 1974) p. 234-235.

[17]Julian J. Edney, "Human Territoriality," Psychological Bulletin, 81 (1974) 959-975.

[18]Like all examples the definitions selected are self-serving. Definitions of territoriality can be found which do not include the concept of defensiveness but the vast majority do seem to imply defense of some sort.

[19]Sommer, p. 43

[20]The Defensive Mechanism Index was kindly provided by Professor Sweney.

[21]The testing was done on two successive days. On day 1, the DMI was administered followed by the diagrams. On day 2, the diagrams preceeded the DMI. This order of presentation made no difference and was dropped from the analysis.

[22]In the correlation matrix, cases were discarded if there was any missing data. Thus, not all 144 subjects are included in the analysis.

[23]W. W. Cooley and P. R. Lohnes, Multivariate Data Analysis (New York: Wiley and Sons, 1971).

[24]K. V. Wilson, "A Distribution-Free Test of Analysis of Variance Hypotheses," Psychological Bulletin, 53 (1956) pp. 96-101.

[25]J. Cohen, Statistical Power Analysis for the Behavioral Sciences (New York: Academic Press, 1977).

[26]Ibid., pg. 23.

Table 1

Hypothetical Seat Choices Made by Students

Using Sommer's Instructions

Instructions	6 Chair Table		8 Chair Table		10 Chair Table		
	Middle	End	Middle	End	Middle	Next to End	End
Offensive	88% (68)	12% (9)	96% (74)	4% (3)	87% (67)	9% (7)	4% (3)
Defensive	21% (16)	79% (62)	23% (18)	77% (60)	15% (12)	9% (7)	76% (59)

Table 2

Mean Differences between DMI Subscales

for the End and Middle seat groups

	Subscales of DMI				
Seat	I	II	III	IV	V
End	75.54	72.65	72.65	70.65	69.76
Middle	75.62	72.54	73.60	71.88	71.78

Legend:

I = rationalization
II = compensation
III = negative affect-humor
IV = perceptual defense
V = autism

Table 3

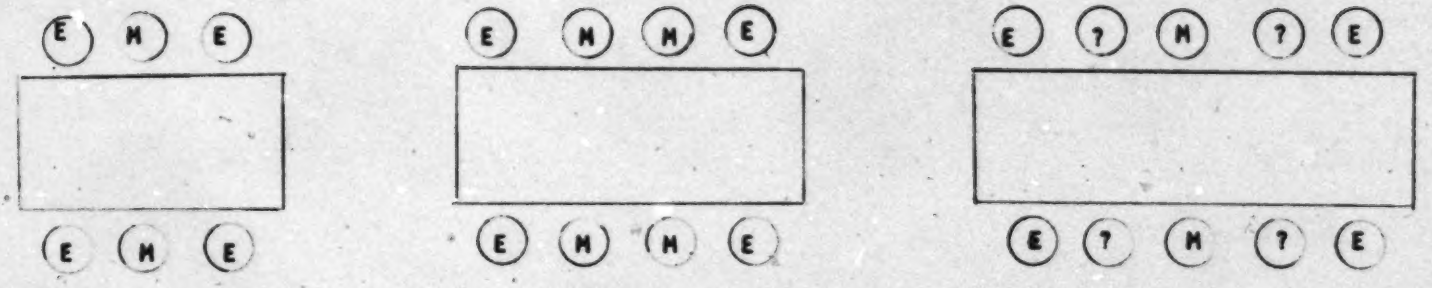
Average Rank of Seat Choices

Made by Library Patrons

	Seat Chosen		
	Alone	End	Middle
Average Rank	56.67	47.08	39.64
N	15	65	14

Figure 1

Classification of seats at the six, eight and ten chair tables



Legend:
E = end chair
M = middle chair
? = next to end/middle